

Application No. 10/763,457
Amendment dated March 19, 2007
Reply to the Office action of November 17, 2006

The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber extending completely around a periphery of the storage chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber, the outflow of beverage from the storage chamber being separate from the manifold chamber.

Claim 2 (Original): A cartridge as claimed in claim 1 further comprising a discharge chamber which is overlain by a third portion of the lid which is pierceable in use to accommodate the outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber.

Claim 3 (Original): A cartridge as claimed in claim 2 wherein the discharge chamber comprises a discharge spout.

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Claim 4 (Original): A cartridge as claimed in claim 3 wherein the manifold chamber and the storage chamber are divided by a partition comprising one or more apertures.

Claim 5 (Original): A cartridge as claimed in claim 4 wherein the apertures are sized to prevent passage of the one or more beverage ingredients from the storage chamber into the manifold chamber.

Claim 6 (Cancelled).

Claim 7 (Cancelled).

Claim 8 (Previously Presented): A cartridge as claimed in claim 4 wherein the apertures are provided along substantially all of an interface between the manifold chamber and the storage chamber.

Claim 9 (Original): A cartridge as claimed in claim 8 wherein the apertures have a width of between 0.25 and 0.35 mm.

Claim 10 (Original): A cartridge as claimed in claim 9 wherein the apertures have a length of between 1.4 and 1.8 mm.

Claim 11 (Original): A cartridge as claimed in claim 10 wherein between 20 and 40 apertures are provided.

Claim 12 (Currently Amended): A cartridge as claimed in claim 11 containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber extending completely around a periphery of the storage chamber, the cartridge comprising an opening through which

the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber;

a discharge chamber which is overlain by a third portion of the lid which is pierceable in use to accommodate the outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber, wherein the discharge chamber comprises a discharge spout, the manifold chamber and the storage chamber are divided by a partition comprising one or more apertures, wherein the apertures are provided along substantially all of an interface between the manifold chamber and the storage chamber, the apertures have a width of between 0.25 and 0.35 mm, a length of between 1.4 and 1.8 mm and between 20 and 40 apertures are provided; and

wherein the manifold chamber comprises an inlet portion into which the aqueous medium is introduced, wherein the inlet portion communicates with the remainder of the manifold chamber via one or more openings.

Claim 13 (Original): A cartridge as claimed in claim 12 wherein the inlet portion is circular.

Claim 14 (Currently Amended): A cartridge as claimed in claim 2 containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber extending completely around a periphery of the storage chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and

a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber; and

a discharge chamber which is overlain by a third portion of the lid which is pierceable in use to accommodate the outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber, wherein the storage chamber and the discharge chamber are divided by an inner member.

Claim 15 (Original): A cartridge as claimed in claim 14 wherein the inner member comprises one or more apertures.

Claim 16 (Original): A cartridge as claimed in claim 15 wherein the inner member comprises a filter to prevent passage of the one or more beverage ingredients from the storage chamber into the discharge chamber while accommodating passage of the beverage therethrough.

Claim 17 (Original): A cartridge as claimed in claim 16 wherein the lid is joined to the outer member and the inner member.

Claim 18 (Original): A cartridge as claimed in claim 17 wherein the lid is joined to the outer member around a periphery of the cartridge and the lid is joined to the inner member at or near a center of the cartridge.

Claim 19 (Original): A cartridge as claimed in claim 18 wherein the lid is joined to a discharge funnel of the inner member.

Claim 20 (Original): A cartridge as claimed in claim 19 wherein the outer member has a greater rigidity than the lid.

Claim 21 (Original): A cartridge as claimed in claim 20 wherein the location of piercing of the lid to accommodate the inflow and outflow is such that aqueous medium passing through the cartridge moves generally inwardly from the inlet to the outlet.

Claim 22 (Original): A cartridge as claimed in claim 21 wherein the cartridge is shaped such that the aqueous medium passes through the storage chamber in a generally upwards direction.

Claim 23 (Original): A plurality of cartridges, as claimed in claim 22, wherein the percentage yield of the beverage produced from the one or more beverage ingredients contained in the cartridges is consistent to within 1.0 standard deviations.

Claim 24 (Original): A method of use of a cartridge as claimed in claim 22 wherein the cartridge is displaced relative to one or more static piercing elements in order to form the inlet to, and outlet from, the cartridge.

Claim 25 (Previously Presented): A cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients, the cartridge further comprising a lid, the cartridge being configured such that the lid is pierceable in use when the cartridge is in an horizontal orientation to accommodate both inflow and outflow of an aqueous medium to form a beverage from interaction of the aqueous medium and the one or more beverage ingredients in the chamber, the inflow of aqueous medium is into a manifold chamber and the outflow of beverage is from a central discharge chamber surrounded by the manifold chamber, and the storage chamber containing the one or more beverage ingredients is separate from the manifold chamber and the discharge chamber.

Claims 26-29 (Cancelled).

Claim 30 (Previously Presented): A cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber;

a discharge chamber which is overlain by a third portion of the lid which is pierceable in use to accommodate the outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber, the discharge chamber comprises a discharge spout;

the manifold chamber and the storage chamber are divided by a partition comprising one or more apertures, the manifold chamber substantially encircles the storage chamber and the apertures are provided along substantially all of an interface between the manifold chamber and the storage chamber, wherein the apertures have a width of between 0.25 and 0.35 mm, the apertures have a length of between 1.4 and 1.8 mm, and between 20 and 40 apertures are provided;

the manifold chamber comprises an inlet portion into which the aqueous medium is introduced, wherein the inlet portion communicates with the remainder of the manifold chamber via one or more openings, the inlet portion is circular.

Claim 31 (Previously Presented): A cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials,

the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber;

a discharge chamber surrounded by the manifold chamber which is overlain by a third portion of the lid which is pierceable in use to accommodate the outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber, the storage chamber and the discharge chamber are divided by an inner member comprising a filter having one or more apertures to prevent passage of the one or more beverage ingredients from the storage chamber into the discharge chamber while accommodating passage of the beverage therethrough, the lid being joined to the outer member around a periphery of the cartridge and to the inner member at or near a center of the cartridge.

Claim 32 (Previously Presented): A cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber extending substantially continuously around a periphery of the storage chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage

formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber;

the cartridge further comprising a discharge chamber which is overlain by a third portion of the lid which is pierceable in use to accommodate the outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber;

wherein the storage chamber and the discharge chamber are divided by an inner member;

wherein the inner member comprises one or more apertures;

wherein the inner member comprises a filter to prevent passage of the one or more beverage ingredients from the storage chamber into the discharge chamber while accommodating passage of the beverage therethrough;

wherein the lid is joined to the outer member and the inner member;

wherein the lid is joined to the outer member around a periphery of the cartridge and the lid is joined to the inner member at or near a center of the cartridge; and

wherein the lid is joined to a discharge funnel of the inner member.

Claim 33 (Currently Amended): A cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber;

a discharge chamber which is overlain by a third portion of the lid which is pierceable in use to accommodate the outflow of beverage formed from interaction of

the aqueous medium and the one or more beverage ingredients in the storage chamber, the discharge chamber comprises a discharge spout surrounded by the manifold chamber;

the manifold chamber and the storage chamber are divided by a partition comprising one or more apertures and the manifold chamber encircles the storage chamber and the apertures are provided along substantially all of an interface between the manifold chamber and the storage chamber.

Claim 34 (Previously Presented): A cartridge as claimed in claim 33 wherein the apertures have a width of between 0.25 and 0.35 mm.

Claim 35 (Previously Presented): A cartridge as claimed in claim 34 wherein the apertures have a length of between 1.4 and 1.8 mm.

Claim 36 (Previously Presented): A cartridge as claimed in claim 35 wherein between 20 and 40 apertures are provided.

Claim 37 (Currently Amended): A cartridge as claimed in claim 36 containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber;

a discharge chamber which is overlain by a third portion of the lid which is pierceable in use to accommodate the outflow of beverage formed from interaction of

the aqueous medium and the one or more beverage ingredients in the storage chamber, the discharge chamber comprises a discharge spout;

the manifold chamber and the storage chamber are divided by a partition comprising one or more apertures and the manifold chamber encircles the storage chamber and the apertures are provided along substantially all of an interface between the manifold chamber and the storage chamber;

wherein the apertures have a width of between 0.25 and 0.35 mm, a length of between 1.4 and 1.8 mm and between 20 and 40 apertures are provided; and

wherein the manifold chamber comprises an inlet portion into which the aqueous medium is introduced, wherein the inlet portion communicates with the remainder of the manifold chamber via one or more openings.

Claim 38 (Currently Amended): A cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber ~~extending substantially continuously around surrounding~~ a periphery of the storage chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber; and

wherein an inlet of the manifold chamber has at least two openings each in communication with the manifold chamber and a width of the manifold chamber adjacent the inlet chamber is less than a width of the inlet chamber parallel to the lid.

Claim 39 (Previously Presented): A cartridge as claimed in claim 38 wherein the inlet chamber is generally circular.

Claim 40 (Previously Presented): A cartridge containing one or more beverage ingredients and being formed from substantially air- and water-impermeable materials, the cartridge defining a storage chamber containing the one or more beverage ingredients and a manifold chamber, the cartridge comprising an opening through which the one or more beverage ingredients can be filled into the storage chamber, the opening being closed by a lid having a first portion overlying the manifold chamber and a second portion overlying the storage chamber, wherein the first portion of the lid is pierceable in use and is sealed to a cylindrical wall of an inlet chamber to accommodate an inflow of an aqueous medium into the manifold chamber and the lid is pierceable in use to accommodate an outflow of beverage formed from interaction of the aqueous medium and the one or more beverage ingredients in the storage chamber.

Claim 41 (Previously Presented): A cartridge as claimed in claim 40 wherein the inlet chamber has a width greater than a width of the manifold chamber adjacent the inlet chamber and parallel to the lid.